

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently Amended) A system for regulating communications
2 between a plurality of transmitters and a receiver, comprising:
3 a plurality of cells, wherein each cell controls communications from a
4 transmitter in the plurality of transmitters to the receiver;
5 wherein the plurality of cells are arranged in a token ring that regulates
6 communications from the plurality of transmitters to the receiver; [[and]]
7 wherein the presence of a token within a token ring cell indicates that the
8 corresponding transmitter may communicate with the receiver; and
9 wherein each cell further comprises an arbiter configured to block
10 propagation of the token to a next cell until the corresponding transmitter
11 completes its transmission.
- 1 2. (Original) The system of claim 1, further comprising:
2 a plurality of receivers; and
3 a plurality of token rings, wherein each token ring passes a corresponding
4 token among token ring cells that control communications from the plurality of
5 transmitters to a receiver corresponding to the token ring.
- 1 3. (Currently Amended) The system of claim 2, wherein the plurality
2 of cells are ~~arranged~~ arranged in a grid wherein a row corresponds to a transmitter
3 and a column corresponds to a receiver.

1 4. (Original) The system of claim 1, wherein the communications can
2 include one of:
3 an electrical signal;
4 a mechanical signal; and
5 an optical signal.

1 5. (Original) The system of claim 1, wherein each cell is configured
2 to receive a request signal from a corresponding transmitter, and in response to
3 the request signal, is configured to issue an acknowledgement signal to the
4 corresponding transmitter which allows the corresponding transmitter to begin
5 transmitting if the cell has the token.

1 6. (Original) The system of claim 5, wherein each transmitter further
2 comprises a reset mechanism that is configured to release the clearance to
3 communicate with the receiver by resetting the request signal.

1 7. (Original) The system of claim 6, wherein the system further
2 comprises an acknowledgement mechanism configured to confirm the release of
3 the clearance by resetting the acknowledgement signal.

1 8. (Original) The system of claim 1, further comprising an
2 initialization mechanism configured to initialize the single token in the token ring.

1 9. (Original) The system of claim 1, wherein the system operates
2 asynchronously.

1 10. (Original) The system of claim 1, wherein the system additionally
2 comprises a flow control mechanism configured to selectively limit the
3 communications from the transmitter to the receiver at the request of the receiver.

1 11. (Currently Amended) A method for regulating communications
2 between a plurality of transmitters and a receiver, comprising:
3 receiving a request signal from a transmitter at a cell in a plurality of cells
4 requesting to communicate with the receiver;
5 wherein the plurality of cells are arranged in a token ring that regulates
6 communications from the plurality of transmitters to the receiver, and wherein
7 each cell further comprises an arbiter configured to block propagation of the
8 token to a next cell until the corresponding transmitter completes its transmission;
9 and
10 in response to the request signal, issuing an acknowledgement signal to
11 the transmitter which allows the transmitter to begin transmitting if the presence
12 of a token is detected within the cell.

1 12. (Original) The method of claim 11, wherein the plurality of cells
2 include a plurality of token rings, wherein each token ring passes a corresponding
3 token among token ring cells that control communications from the plurality of
4 transmitters to a receiver corresponding to the token ring.

1 13. (Original) The method of claim 11, wherein a plurality of cells that
2 regulate communications between the transmitters and receivers are arranged in a
3 grid wherein a row corresponds to a transmitter and a column corresponds to a
4 receiver.

1 14. (Original) The method of claim 11, wherein the communications
2 can include one of:
3 an electrical signal;
4 a mechanical signal; and
5 an optical signal.

1 15. (Original) The method of claim 11, further comprising revoking
2 the permission for the transmitter to communicate with the receiver when the
3 transmitter resets the request signal.

1 16. (Original) The method of claim 15, further comprising resetting
2 the acknowledgement signal to confirm the revocation of the permission for the
3 transmitter to communicate with the receiver.

1 17. (Original) The method of claim 11, further comprising initializing
2 the token in the token ring.

1 18. (Original) The method of claim 11, wherein the system operates
2 asynchronously.

1 19. (Original) The method of claim 11, further comprising controlling
2 the flow of communications by selectively limiting the communications from the
3 transmitter to the receiver at the request of the receiver.

1 20. (Currently Amended) A multi-processor system, comprising:
2 a plurality of processors;
3 a plurality of transmitters associated with the processors;
4 a plurality of receivers associated with the plurality of processors;
5 a plurality of cells, wherein each cell controls communications from a
6 transmitter in the plurality of transmitters to a receiver;
7 wherein the plurality of cells are arranged in a token ring that regulates
8 communications from the plurality of transmitters to a receiver; [[and]]
9 wherein the presence of a token within a token ring cell indicates that the
10 corresponding transmitter may communicate with the receiver; and

- 11 wherein each cell further comprises an arbiter configured to block
12 propagation of the token to a next cell until the corresponding transmitter
13 completes its transmission.